

Case 2718

***Clidastes* Cope, 1868 (Reptilia, Sauria): proposed designation of *Clidastes propython* Cope, 1869 as the type species**

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Abstract. The purpose of this application is to designate *Clidastes propython* Cope, 1869 as the type species of the North American Upper Cretaceous mosasaur genus *Clidastes* Cope, 1868, in accordance with universal understanding and usage. At present the genus has a nominal type species, *C. iguanavus* Cope, 1868, which is indistinguishable from some species of *Mosasaurus* Conybeare in Parkinson, 1822 and is from a later geological horizon than *Clidastes* as generally used.

1. Cope (1868a, p. 181) proposed the new generic and specific names *Clidastes iguanavus* for a single anterior thoracic vertebra of a mosasauroid lizard from 'a marl pit near Swedesboro', Gloucester Co., N.J.' (Cope, 1868b, p. 233). The holotype, no. 1601 in the Peabody Museum of Natural History, Yale University, was collected from the Marshalltown Formation of the Matawan Group (Late Campanian, Upper Cretaceous). The nominal species *iguanavus* is thus the type of *Clidastes* by monotypy.

2. Recently, a re-examination of the single vertebra referred to *Clidastes iguanavus* has indicated that it is indistinguishable from anterior thoracic vertebrae of some members of the genus *Mosasaurus* Conybeare in Parkinson, 1822 (p. 298) (family MOSASAURIDAE Gervais, 1853, p. 471). The specimen is insufficient for identification to species level but closely resembles *Mosasaurus conodon* (Cope, 1881) (p. 588). *Clidastes iguanavus* is based on material inadequate for definitive diagnosis and should be considered a nomen dubium or, following Mones (1989, p. 232), a nomen vanum (i.e. an available but taxonomically unassignable name). The name *iguanavus* was included in a faunal list for the Marshalltown Formation (Russell, 1988, p. 34) but, other than Cope's holotype, I have found no instance of material being referred to the nominal species.

3. A further 12 nominal species were subsequently included in *Clidastes* (see Merriam, 1894, p. 35). Russell (1967, pp. 121, 124–131) synonymized many of these nominal species and recognized only four taxa: *C. propython* Cope, 1869 (p. 258), *C. liodontus* Merriam, 1894 (p. 35) and *C. sternbergii* Wiman, 1922 (p. 13, text-figs. 4–9, pls. 3–4), which were based on well defined material, and *C. iguanavus* Cope, 1868. Later, Russell (1970, pp. 369–371) placed *sternbergii* in the genus *Halisaurus* Marsh, 1869 (p. 395). Under my previous name (Wright, 1987, p. 99) I included in *Clidastes* an as yet undescribed species from the Early Campanian of Alabama, Nebraska and Wyoming.

4. In addition to *Clidastes iguanavus* being indeterminate, recent advances in mosasaur biostratigraphy have favored the abandonment of this nominal species as the

type of the genus. Russell (1967, pp. 205–206) reported a change in the composition of North American mosasaur faunas between the Early and Late Campanian. Wright (1986a, p. 146; 1986b, p. A51) has documented this phenomenon in Alabama and the western interior of the U.S.A., and concluded that *Clidastes* (sensu *propython*) is not known to occur later than the Early Campanian. However, the holotype of *C. iguanavus* was collected from sediments of Late Campanian age and is the only post-Middle Campanian specimen from North America purported to belong to *Clidastes*.

5. Wright (1987, p. 99) recognized the difficulties surrounding the name *Clidastes iguanavus* and suggested that *Clidastes* be considered a nomen vanum and that it could be replaced with its junior synonym *Edestosaurus* Marsh, 1871 (p. 447). However, *Clidastes* is one of the most widely known names in the MOSASAURIDAE. The taxon dominates many mosasaur assemblages and hundreds of specimens are found in collections around the world. For 123 years *Clidastes* has been considered a valid generic name in all taxonomic, morphological, paleoecological and biostratigraphic literature concerning the MOSASAURIDAE, particularly in the last three decades (see, for example, the recent works of Romer (1971), Thurmond & Jones (1981) and Carroll (1988); a representative list of a further 12 references demonstrating the usage of the name is held by the Commission Secretariat). The ubiquity of the name has been strengthened by the occasional use of the informal taxonomic word 'clidastoid' when speaking of *Clidastes* and its descendants (see, for example, Russell, 1967, p. 206). Replacement of the name *Clidastes* with the obscure junior synonym *Edestosaurus* will not promote nomenclatural stability. Such an action would encounter considerable resistance and would lead to a protracted period of confusion and I therefore recommend retention of *Clidastes*.

6. I propose that the Commission use its plenary powers to designate *Clidastes propython* Cope, 1869 (p. 258) as the type species of *Clidastes*. This was the first nominal species described from well preserved material to be included in the genus and is the species on which, de facto, the genus is based. The holotype, no. 10193 in the Academy of Sciences of Philadelphia, was collected from the Mooreville Chalk of the lower Selma Group (Early Campanian, Upper Cretaceous) of west central Alabama. The specimen consists of most of the skull, most of the pectoral girdle, parts of both forelimbs and an incomplete axial skeleton (axis-atlas complex, five cervical, 16 dorsal and 35 caudal vertebrae, and many rib fragments). Adoption of *C. propython* Cope as the type of *Clidastes* will maintain the name in its current universal usage.

7. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to set aside all previous fixations of type species for the nominal genus *Clidastes* Cope, 1868 and to designate *Clidastes propython* Cope, 1869 as the type species;
- (2) to place on the Official List of Generic Names in Zoology the name *Clidastes* Cope, 1868 (gender: masculine), type species by designation in (1) above *Clidastes propython* Cope, 1869;
- (3) to place on the Official List of Specific Names in Zoology the name *propython* Cope, 1869, as published in the binomen *Clidastes propython* (specific name of the type species of *Clidastes* Cope, 1868).

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